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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,101	06/21/2007	Choong-Il Yeh	1403-18 PCT US	3731

66547 7590 09/16/2009  
THE FARRELL LAW FIRM, LLP  
290 Broadhollow Road  
Suite 210E  
Melville, NY 11747

EXAMINER
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NGUYEN, LEON VIET Q

ART UNIT	PAPER NUMBER
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2611

MAIL DATE	DELIVERY MODE
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09/16/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/588,101	<b>Applicant(s)</b> YEH ET AL.	
	<b>Examiner</b> LEON-VIET Q. NGUYEN	<b>Art Unit</b> 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-15 and 17 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/31/06, 8/27/07</u> .  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This application is in condition for allowance except for the following formal matters:

#### ***Drawings***

2. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Claim Objections***

3. Claim 16 objected to because of the following informalities:
  - a. In claim 16, part c) should read "...input and output signals of the ADC are approximately Gaussian *with* zero mean."Appropriate correction is required.

***Allowable Subject Matter***

4. Claims 1-15 and 17 are allowed.
5. The following is a statement of reasons for the indication of allowable subject matter:
  - a. Applicant's admitted prior art (hereinafter referred to as AAPA) teaches an analogue/digital converter (ADC 20 and 30 in fig. 1) quantizing one of an I-branch signal and a Q-branch signal into a digital signal (page 2 lines 10-13), the I-branch and Q-branch signals being extracted from a signal received through the wireless network (page 3 lines 7-12);  
an accumulate unit (an accumulate and dump 60 in fig. 1); and  
a square unit (square units 40 and 50 in fig. 1)
  - b. Miller et al (US6965630) teaches an absolute value calculating unit (block 201 in fig. 5) calculating an absolute value of the digital signal quantized by the ADC (col. 15 lines 5-7) and outputting a calculation result (fig. 5);  
an accumulate unit (block 208 in fig. 5) accumulating an output of the absolute value calculating unit for a given time period (col. 15 lines 12-13) and outputting an accumulated result (fig. 5);  
a square unit (block 210 in fig. 5) squaring an output of the accumulate unit (col. 15 lines 12-14) and outputting a squared result (fig. 5); and

a multiply unit (block 212 in fig. 5) multiplying an output of the square unit by a given value (although not explicitly taught, it is well known that a scaling operation involves multiplication) and outputting a multiplied result (fig. 5).

None of the prior art made of record teaches “the given value being determined based on the number of input bits, an input clip level, and input resistance of the ADC when the probability density functions at input and output signals of the ADC are approximately Gaussian with zero mean” or “wherein power at an input end of the ADC is determined by using the RSSI, the power at the input end being calculated using a signal at an output end of the ADC based on a first relation between variance of an output signal of the ADC and variance of an input signal of ADC when the probability density functions at input and output signals of the ADC are approximately Gaussian with zero mean and a second relation between the power and the variance in the probability density functions as a Gaussian random variable”.

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- c. Mestdagh et al (US6621430) teaches an analog-to-digital converter in a digital processing system which outputs probability density function which follows a Gaussian curve centered at zero.
- d. Gabato et al (US5603112) teaches calculating the RSSI of a signal after taking the absolute value and squaring the I and Q portions.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEON-VIET Q. NGUYEN whose telephone number is (571)270-1185. The examiner can normally be reached on Monday-Friday, alternate Friday off, 7:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Leon-Viet Q Nguyen/  
Examiner, Art Unit 2611

/David C. Payne/

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Supervisory Patent Examiner, Art Unit 2611